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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/977,225   | 10/16/2001  | Jacob K. Freudenthal | 07414.0034-00       | 3636             |
| 7590   | 12/14/2004  |                      | EXAMINER            |                  |
| Finnegan, Henderson, Farabow<br>Garrett & Dunner, L.L.P.<br>1300 I Street, N.W.<br>Washington, DC 20005-3315 |             |                      | SINES, BRIAN J      |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 1743                |                  |

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/977,225             | FREUDENTHAL ET AL.  |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Brian J. Sines         | 1743                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 08 November 2004.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-17 and 24-30 is/are pending in the application.  
 4a) Of the above claim(s) 18-23 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,7,8,10,11 and 24-30 is/are rejected.  
 7) Claim(s) 2-6,9 and 12-17 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10/16/2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election without traverse of group I comprising claims 1 – 17 and 24 – 30 in the reply filed on 11/8/2004 is acknowledged. Claims 18 – 23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 24 – 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 recites the limitation "fill port" in line 5. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

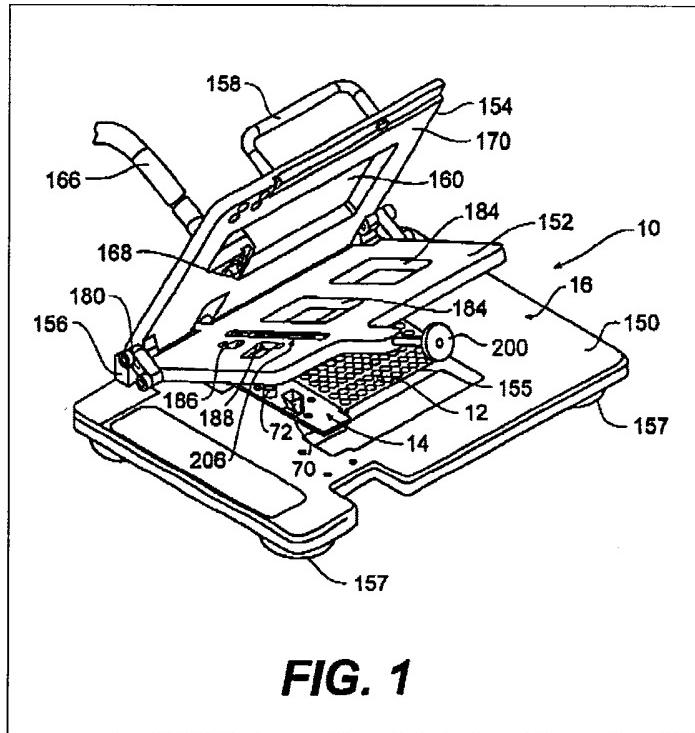
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

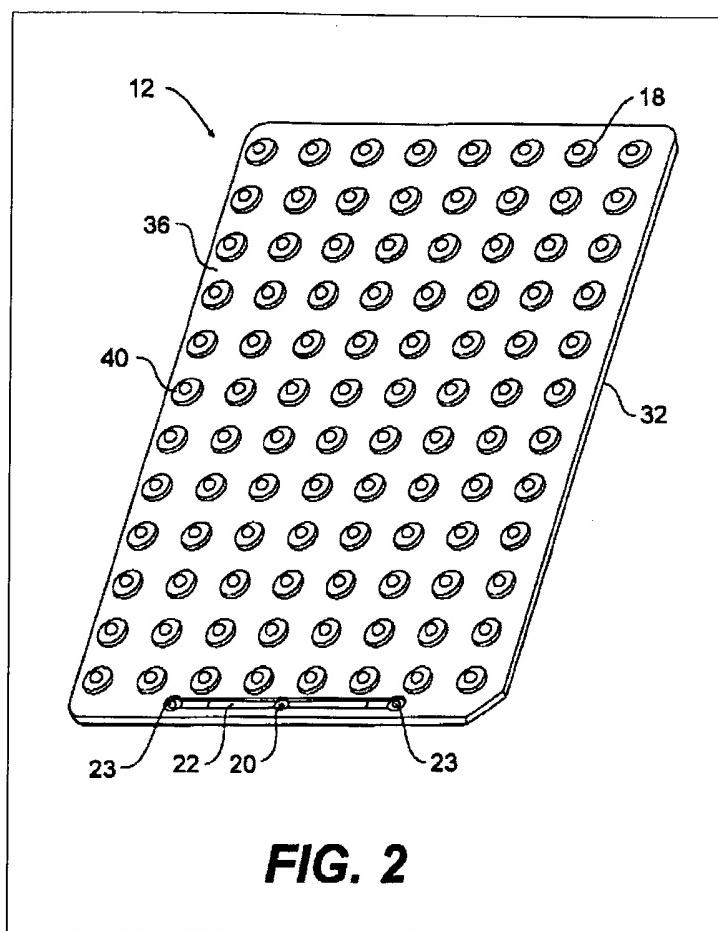
A person shall be entitled to a patent unless –

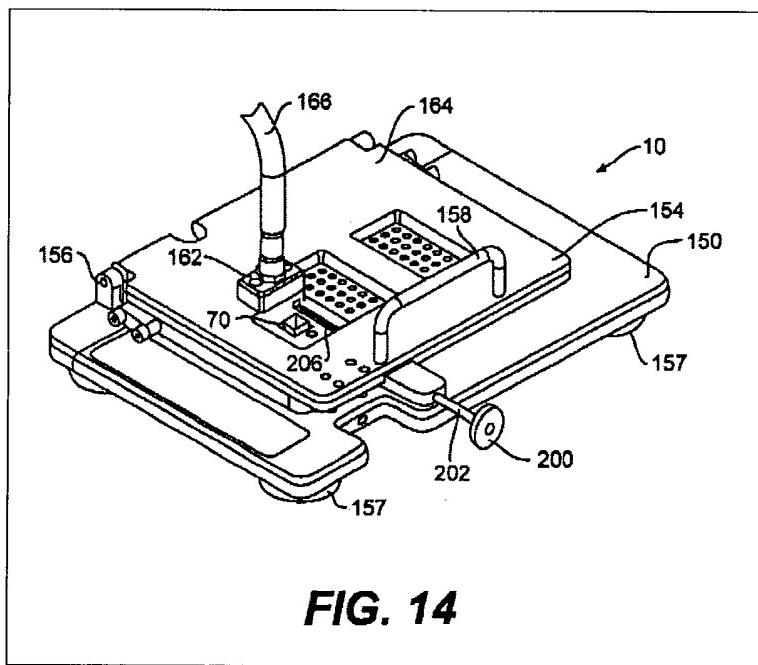
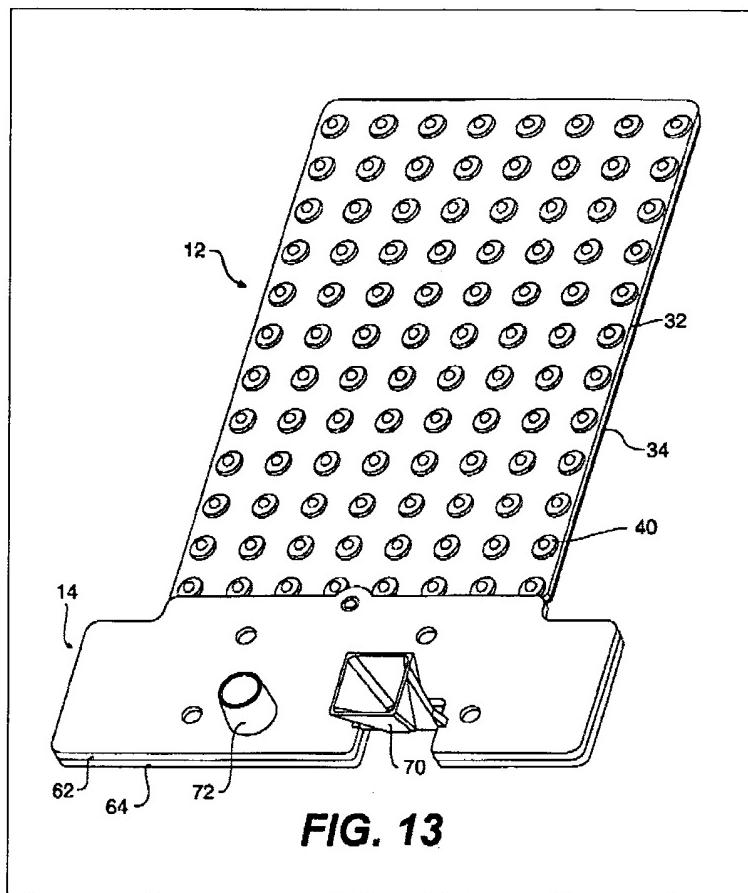
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

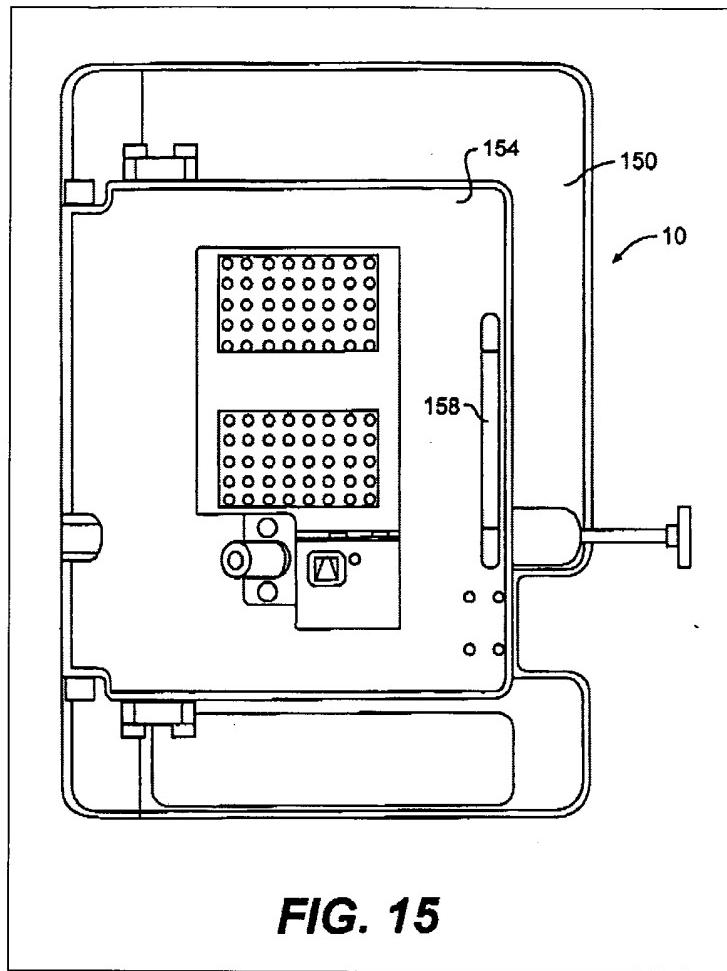
Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Frye et al. (U.S. Pat. No. 6,272,939 B1). Frye et al. teach an apparatus (10) comprising: a substrate (12) comprising:

sample chambers (18); a fill port (20); and a network of passageways (17) connecting the sample chambers to the fill port; a substrate support (base plate 150) to retain the substrate in a fill position; a valve module (filling station 16) on the substrate support (150), wherein the valve module comprises a fill port seal opening (fill reservoir 70) to connect with the fill port of the substrate in the fill position, and a vacuum opening (vacuum port 72) for connection to a source of vacuum, and further comprising a valve body (middle plate 154) comprising a liquid outlet port (through-hole 160) and a vacuum port (vacuum nozzle 162); and a means (hinge 156 & overcenter linkage 180) for operating or actuating the valve body (154) so that the liquid outlet port (160) and the vacuum port (162) are alternately in fluid communication with the fill port seal opening (70) (see col. 4, line 25 – col. 16, line 23; figures 1 – 15).









**FIG. 15**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 7, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frye et al. Regarding claims 7, 8 and 10, Frye et al., as discussed above, teach an apparatus comprising each of the individually recited features. Frye et al. do not specifically teach an apparatus comprising essentially a plurality of the identically disclosed features. However, the Courts have held that the mere duplication of parts, without any new or unexpected results, is within the ambit of one of ordinary skill in the art. See *In re Harza*, 124 USPQ 378 (CCPA 1960) (see MPEP § 2144.04). Therefore, it would have been obvious to a person of ordinary skill in the art to incorporate a plurality of the features recited in the instant claims in order to process more than one substrate comprising chambers, which contain a plurality of samples. Furthermore, with respect to claims 10 and 11, Frye et al. do teach the incorporation of an integrated housing component (e.g., adapter 14) comprising the fill port seal opening (70) and the vacuum opening (72) (see figure 13). Regarding claim 11, the Courts have held that the use of a one-piece, integrated construction, instead of the structure disclosed in the prior art, would have been within the ambit of a person of ordinary skill in the art. See *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). Therefore, it would have been obvious to a person of ordinary skill in the art to provide an apparatus comprising housing components of the at least two valve members, which are integrated in a common housing, so as to form a single, integrated apparatus.

***Allowable Subject Matter***

1. Claims 2 – 6, 9 and 12 – 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Frye et al. a valve body comprising a cylindrical body rotatable in a bore of the valve module.

Regarding claim 9, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Frye et al. a means for simultaneously actuating the at least two valve bodies comprising a reciprocal comb member having tooth-like valve handle engaging projections, which exceed the number of valve bodies by one.

Regarding claim 12, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Frye et al. a common housing comprising front and back sides, wherein the fill port seal openings for the at least two valve members are aligned on the front side of the common valve housing, and wherein the vacuum port openings are accessible at the back side of the common valve housing.

Regarding claim 14, the cited prior art neither teach nor fairly suggest the further incorporation within the apparatus of Frye et al. a valve body of the at least two valve members comprising a cylindrical body rotatable in the respective housing component, wherein the vacuum port is defined by a diametric hole through the cylindrical body.

2. Claims 24 – 30 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Dubrow et al. teach methods and devices for microfluidic fluid transfer. Demers teaches an fluid apportioning system. Benvegnu et al. teach a method for sample injection in a microfluidic device. Chow et al. teach methods and devices for fluid transfer in microfluidic devices. Bordenkircher et al. teach a sample handling device related to the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Brian Linn".